Dell PowerConnect W-6000M3 Controller Module Installation Guide

Introduction

The Dell PowerConnect W-6000M3 Controller Module is a hot-swappable Controller Module for use within the Dell W-6000 Controller chassis. The W-6000 controller chassis is capable of containing up to four W-6000M3 modules, each of which can be configured as a master or local controller. Each W-6000M3 Controller Module is capable of supporting up to 512 campus connected access points (APs). For compatibility and configuration options, refer to "Configuration Options" on page 6.

Minimum Software Requirements

The W-6000M3 Controller Module requires ArubaOS 5.0.3 or later.

NOTE: The master controller, its redundant master controller, and all of its local controllers must run on the same ArubaOS version. Once you upgrade your network and install the W-6000M3 Controller Module into your network, verify that the software version on your W-6000M3 Controller Module matches the rest of the network. If the code shipped on the module is prior to the version that you upgraded your network to, you must upgrade the code on the W-6000M3 Controller Module to match the rest of the network.

Package Checklist

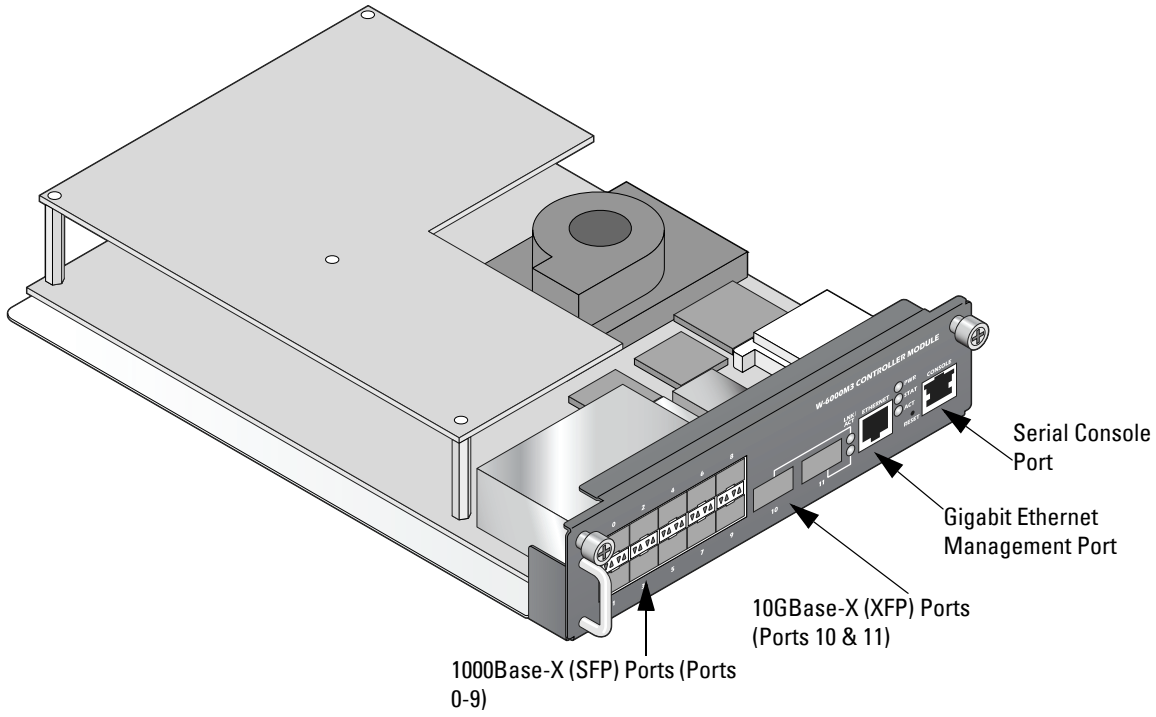
- *Dell PowerConnect W-6000M3 Controller Module*
- *Dell PowerConnect W-6000M3 Controller Module Installation Guide*
- *Dell PowerConnect Quick Start Guide*
- *End User License Agreement (EULA)*
- *Safety, Environmental, and Regulatory Information (SERI)* document
- *Warranty and Support Information (WSI)* document

NOTE: Inform your supplier if there are any incorrect, missing, or damaged parts. If possible, retain the carton, including the original packing materials. Use these materials to repack and return the unit to the supplier if needed.

NOTE: Optional accessories, such SFP and XFP modules, are available for use with the W-6000M3 and are sold separately. Contact your Dell sales representative for details and assistance.

Hardware Overview

Figure 1 *W-6000M3 Controller Module*



Ports

1000Base-X (SFP) Ports

Ports 0 through 9 on the W-6000M3 are 1000Base-X (SFP) ports for fiber or copper connectivity and are intended for use with Dell approved SFPs.

NOTE: Dell tests and supports Dell optics within their controller systems. Third party optics are not tested or supported; therefore, Dell does not guarantee proper functionality of third party optics. For further details regarding Dell approved SFPs, refer to the *Dell PowerConnect W-Series SFP Optical Modules Installation Guide*.

10GBase-X (XFP) Ports

Ports 10 and 11 on the W-6000M3 are 10GBase-X fiber optic ports for use with Dell XFPs. XFPs are 10 Gbit hot-swappable, optical transceivers, which convert serial electrical signals to external serial optical or electrical signals.

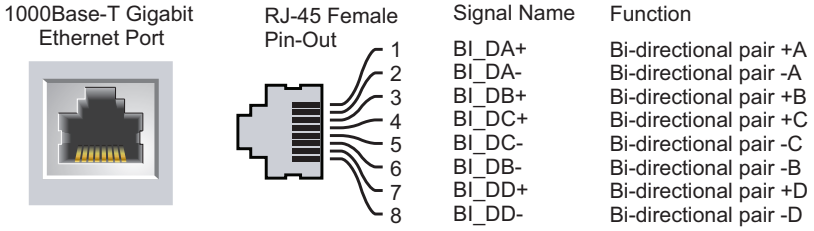
NOTE: Dell tests and supports Dell optics within their controller systems. Third party optics are not tested or supported; therefore, Dell does not guarantee proper functionality of third party optics. For further details regarding Dell approved XFPs, such as technical specifications and installation instructions, refer to the *Dell PowerConnect W-Series XFP Optical Modules Installation Guide.*

Gigabit Ethernet Management Port

This port is a 10/100/1000Base-T Gigabit Ethernet (RJ-45) port. Gigabit Ethernet uses all eight wires and each pair is used in a bi-directional fashion, meaning the same pairs are used for both data transmission and reception. This port also supports Auto MDIX, allowing the use of crossover of straight through cables. Figure 2 illustrates the CAT-5 pin-out found on an RJ-45 connector. The CAT-5 pin-out pairs the following pins on a 10/100/1000Base-T Gigabit Ethernet port: 1/2, 3/6, 4/5, and 7/8.

NOTE: Ethernet traffic on this port is out-of-band; this port is segmented from regular switching and routing functions and cannot be used as a network data port.

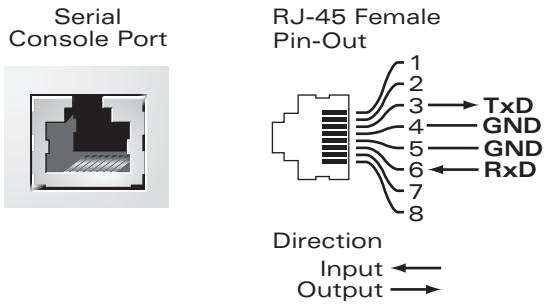
Figure 2 *Gigabit Ethernet Port Pin-Out*



Serial Console Port

A serial console port is provided for connection to a terminal, allowing for direct local management. The port's RJ-45 female connector accepts an RS-232 serial cable with a male connector.

Figure 3 *Serial Console Port Pin-Out*



Communication settings for the serial console port are indicated in Table 1.

Table 1 *Serial Connection Requirements*

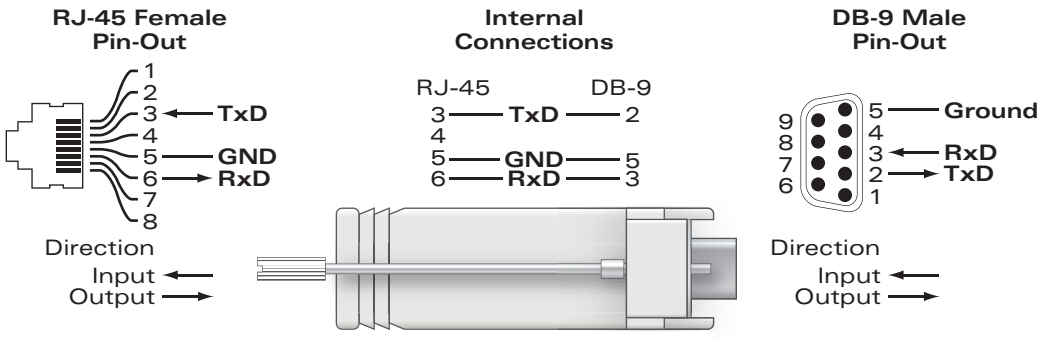
Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

△ **CAUTION: Do not connect an Access Point (AP) to the serial console port. The serial console port is only compatible with RS-232 devices. Non-RS-232 devices, such as APs, are not supported and will cause the controller to fail.**

Serial Console Port Adaptor

A modular adaptor can be used to convert the RJ-45 (female) connector to a DB9 (male) connector. Refer to Figure 4 for complete details

Figure 4 *RJ-45 (female) to DB9 (male) Modular Adaptor Conversion*



LED Status Indicators

Table 2 describes the W-6000M3 LEDs (show in Figure 5) and their function.

Figure 5 *W-6000M3 Front Panel and LEDs*

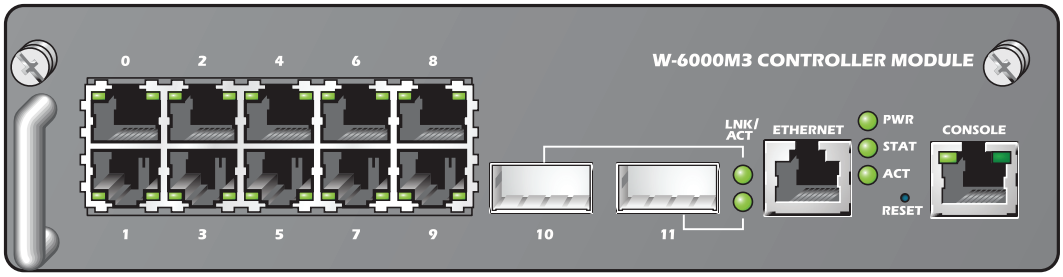


Table 2 *W-6000M3 LED Behavior*

LED	Function	Indicator	Status
PWR	Input Power Status	On (Green)	Power on
		Off	No power
STAT	Module Status Indicator	On (Green)	Device is operational
		On (Amber)	Device is booting
		On (Red)	Device failed
		Off	Device is loading software or no power
ACT	Module Mode Indicator	On (Green)	Device in active mode
		On (Yellow)	Device in standby mode
		Off	Device has not determined operating state or no power
LNK/ACT	Link Status Indicator	On (Solid Green)	Link has been established
		On (Flashing Green)	Port is transmitting or receiving data
		Off	No link on port

Configuration Options

Configuration Requirements

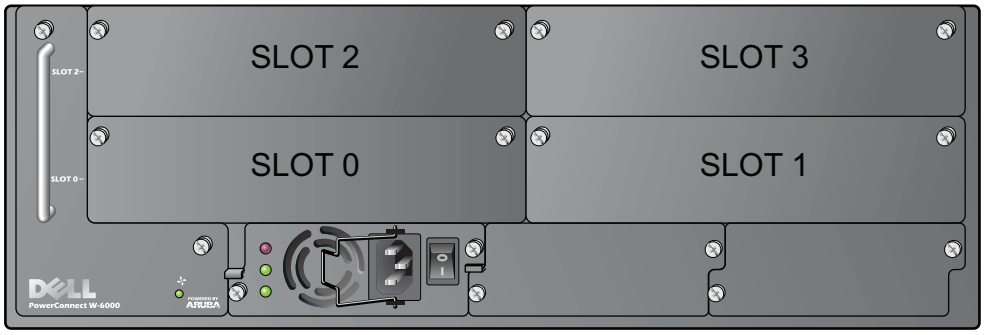
The following requirements must be adhered to when running W-6000M3 Controller Modules within the Dell PowerConnect W-6000:

- The first W-6000M3 Controller Module must be installed in either Slot 0 or Slot 1 of the W-6000 chassis. W-6000M3 modules in Slot 2 or Slot 3 will not boot if an W-6000M3 is not present in Slot 0 or Slot 1. Refer to Figure 6 for Slot ID and locations within the Dell W-6000 chassis.

  Slot 0 or Slot 1 must be populated before Slot 2 or Slot 3 since backplane communication occurs between the following:

  - Slot 0 communicates with Slot 2 and/or Slot 3
  - Slot 1 communicates with Slot 2 and/or Slot 3
- The W-6000M3 module is designed for installation within the W-6000 chassis utilizing 400 W power supplies only. Refer to "Power Management" on page 10 for complete details.
- Minimum software requirements must be met prior to installing the W-6000M3. Refer to "Minimum Software Requirements" on page 1 for complete details.

Figure 6 *W-6000 Slot Configuration*



- Configuration options are also dependent on power requirements for each module. Refer to "Power Management" on page 10 for complete details.

Installation

CAUTION: Many repairs may only be done by a certified service technician.You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

Pre-Installation Requirements

The following tools and equipment are required for installation of an W-6000M3 module:

- Pre-installed Dell PowerConnect W-6000 Controller Chassis(sold separately)
- ESD-preventive wrist strap (not provided)
- #2 Phillips screwdriver (not provided)
- Dell PowerConnect W-6000M3 Controller Module(s)

Physical Installation

To install an W-6000M3 module into an W-6000 chassis:

1. Use standard ESD precautions when installing an W-6000M3.

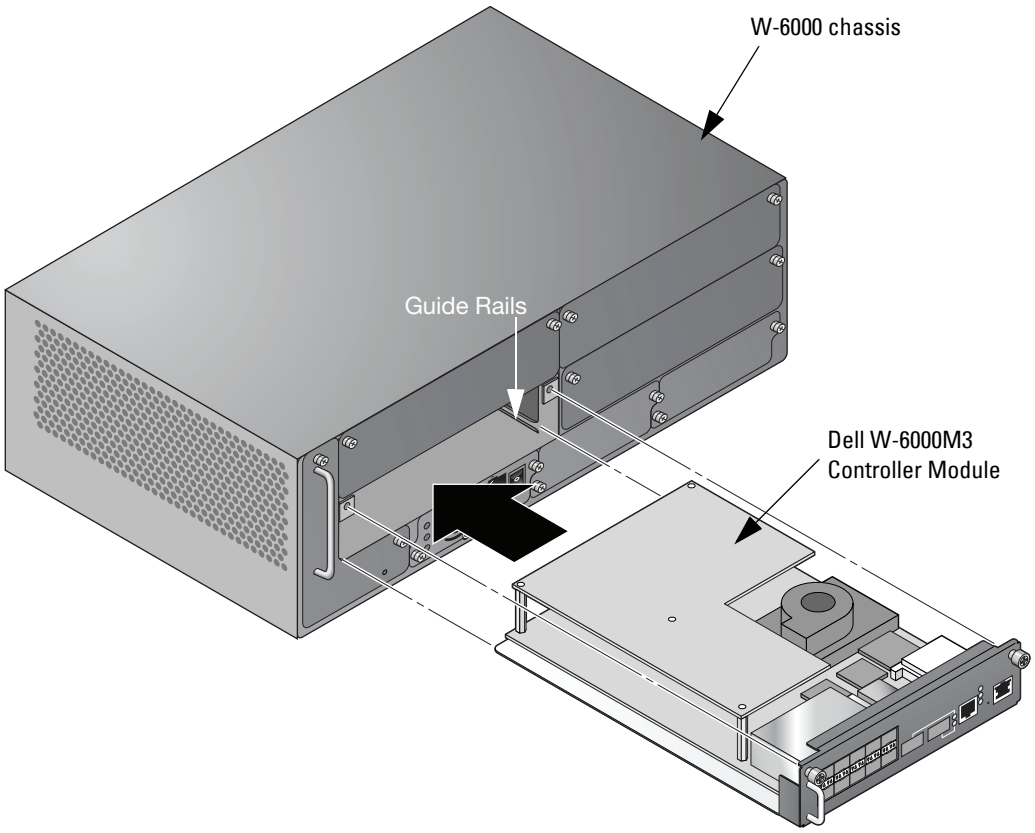
NOTE: Since the Dell W-6000M3 Controller Module is hot-swappable, the power to the chassis can be ON or OFF.

2. Remove the blank front panel or existing module from the appropriate slot in the W-6000 chassis (if applicable).

NOTE: Dell recommends the use of a blank front panel over any unused slots in an W-6000. The blank front panel is required for proper cooling and air flow within the W-6000.

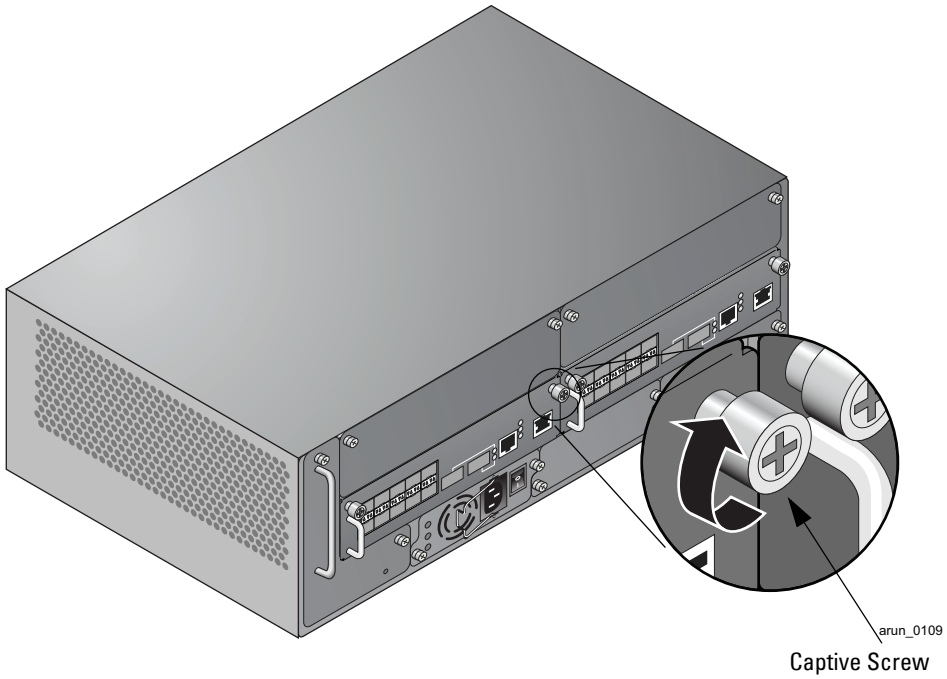
3. Remove the W-6000M3 module from the shipping carton and ESD bag.
4. Slide the W-6000M3 into the W-6000 using the guide rails. The W-6000M3 must be seated within the guide rails for proper installation (see Figure 7).

Figure 7 *Installing an W-6000M3*



5. Secure the W-6000M3 to the W-6000 by tightening down the two captive screws using a #2 Phillips screwdriver (see Figure 8). Turn the captive screws clockwise until the screws are hand tight. Do not over-tighten the screws.

Figure 8 *Securing an W-6000M3*



Initial Setup and Network Connectivity

Once the physical installation is complete, run the initial setup on the W-6000M3 to configure the IP address of the module (referred to as the controller in ArubaOS documentation) and other basic system information. For complete details and instructions, refer to the *Dell PowerConnect ArubaOS Quick Start Guide* for the software version installed on your controller.

Removal

1. Use standard ESD precautions when removing an W-6000M3.

NOTE: Since the Dell W-6000M3 Controller Module is hot-swappable, the power to the chassis can be ON or OFF.

2. Turn the captive screws counter-clockwise to loosen the screws and release the W-6000M3.
3. Slide and remove the W-6000M3 from the W-6000.
4. Install a blank front panel over any unused slots.

NOTE: Dell requires the use of a blank front panel over any unused slots in a Dell W-6000 chassis. The blank front panel is required for proper cooling and air flow within the W-6000.

Power Management

The W-6000 controller supports up to three 400 W power supplies. If using one to two primary power supplies for 400 to 800 W of primary power, the use of a 400 W redundant power supply is possible.

For maximum capacity planning, add the maximum power draw required for all of the modules in your chassis configuration to determine the required number of power supplies.

W-6000M3 Module and PSU Configuration Table

The following table displays the W-6000M3 module configurations, and the resultant power supply configurations and power usage.

Table 3 *Power Supply and Module Configurations*

Module	Number of Units			
W-6000M3 Controller Module (130 W max power draw each)	1	2	3	4
Total Power (W)	130	260	390	520
Required number of PSUs	1	1	1	2
Redundant number of PSUs	1 or 2	1 or 2	1 or 2	1

Safety and Regulatory Compliance

NOTE: For additionas safety, compliance, and regulatory information, see the Dell PowerConnect W-6000 Installation Guide. To download the latest technical product documentation, including User Guides, Reference Guides, and Installation Guides, navigate to **support.dell.com/manuals**

Dell provides a multi-language document containing country specific restrictions and additional safety and regulatory information for all Dell hardware products. The *Aruba Safety and Regulatory Addendum* can be viewed or downloaded from the following location: **dell.com**.

CAUTION: Use of controls or adjustments of performance or procedures other than those specified in this manual may result in hazardous radiation exposure.

This product complies with 21 CFR Chapter 1, Subchapter J, Part 1040.10, and IEC 60825-1: 1993, A1: 1997, A2: 2001, IEC 60825-2: 2000.

For continued compliance with the above laser safety standards, only approved Class 1 modules from our approved vendors should be installed in Aruba products.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.
Apparatet må tilkoples jordet stikkontakt.
Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.

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European Union RoHS

Dell products also comply with the EU Restriction of Hazardous Substances Directive 2002/95/EC (RoHS). EU RoHS restricts the use of specific hazardous materials in the manufacture of electrical and electronic equipment. Specifically, restricted materials under the RoHS Directive are Lead (including Solder used in printed circuit assemblies), Cadmium, Mercury, Hexavalent Chromium, and Bromine. Some Dell products are subject to the exemptions listed in RoHS Directive Annex 7 (Lead in solder used in printed circuit assemblies). Products and packaging will be marked with the "RoHS" label shown at the left indicating conformance to this Directive.

Contacting Dell

Table 4 *Website Contacts*

Website Support	
Main Website	dell.com
Support Website	support.dell.com
Dell Documentation	support.dell.com/manuals

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